

Appendix A: Alabama

Goal One: Conserving Habitat: State and Commonwealth Summary of Geographic Focus Areas and Five-Year Accomplishment Targets

Introduction and Overview

Alabama is one of the most ecologically diverse States in the nation. The geography, ranging from the Appalachian mountains in northeast Alabama to the lower coastal plain in the southern part of the State, encompasses a whole host of ecological communities including coastal marsh, maritime forest, pitcher plant bogs, coastal pine savannah, bottomland hardwoods, upland hardwoods, karst springs and sinkholes leading to underground caverns, and unique gravel/cobble and bedrock streams. The majority of the State is drained by the sixth largest river system in the United States; the Mobile River system. The Tennessee River flows through the Cumberland Plateau region of the northern portion of the State and the Chattahoochee, Pea, Choctawhatchee, and Conecuh rivers drain the southeastern portion of the State.

Ecological diversity in Alabama was created by significant differences in soils, elevations, abundant water resources, and rainfall. These physiographic and climatic differences created some very diverse and unique habitats which gave rise to tremendous floral and faunal diversity. Alabama ranks fifth in the nation in plant and animal diversity and first in the nation in freshwater species diversity (Alabama Natural Heritage Program 2003 and Stein 2002).

This diversity, coupled with the intervention of human influences such as the creation of lakes on free flowing rivers, conversion of longleaf pine habitats to other pine types, urban development and agricultural land, has led to the federal listing of



*Physiography
of Alabama*

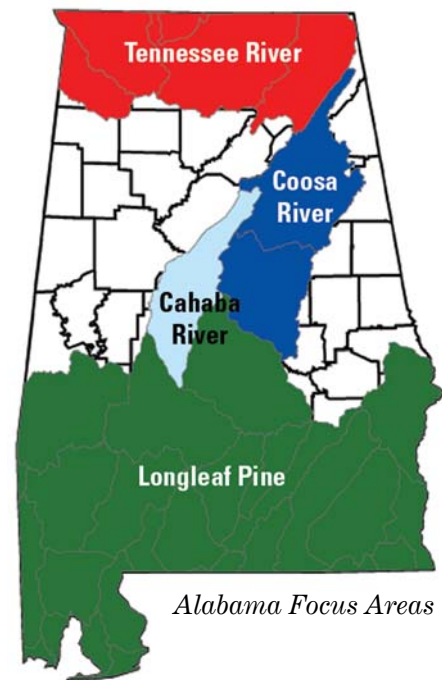
over 117 species as threatened, endangered or candidate species (the third highest state total in the nation). Numerous other species have been identified by the Alabama Wildlife and Freshwater Fisheries (2005) as needing active conservation and management in their recent publication, *Conserving Alabama's Wildlife: A Comprehensive Strategy*.

Overview of Focus Areas

Four geographic focus areas were established in Alabama to concentrate Partners Program funding on species and habitats with the greatest conservation need. These focus areas were also chosen because of ongoing efforts in these areas to restore habitat for federally listed species, as well as species identified in the Alabama Comprehensive Strategy. The four focus areas are the Tennessee River, Coosa River, Cahaba River and Longleaf Pine – Gopher Tortoise focus areas.

Cahaba River Focus Area

The Cahaba River is the longest free-flowing river in Alabama and runs through the Ridge and Valley and Southeastern Plains geographic provinces. The Cahaba River Basin covers 1,818 square miles and lies completely within Alabama.



Alabama Focus Areas

Mayden and Kuhajda (1989) stated that the Cahaba River is the most ichthyologically diverse river for its size in North America. The Cahaba is known to harbor 131 species of fish (Pierson et al. 1989) and once harbored 43 mussel species (van der Schalie 1938). However, only 33 mussel species can be documented at present (Sheppard et al. 1994 and McGregor et al. 2000).

Priority Habitat

Riparian

Five-Year Target (FY 2007-2011)

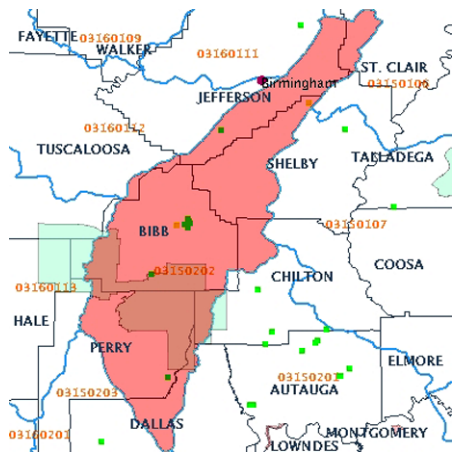
One mile

Focus Species*

Fourteen imperiled mussels (e.g., rayed kidneyshell, SOC) and snail species (e.g., Cahaba pebblesnail, SOC), and six species of imperiled fish (e.g., Cahaba shiner, E; rush darter, C)

Threats:

The problems affecting the species and their habitat include water quality degradation, particularly sedimentation and nutrient enrichment related to urbanization in the upper watershed, as well as silvicultural and agricultural practices.



Cahaba River Focus Area

Action Strategies

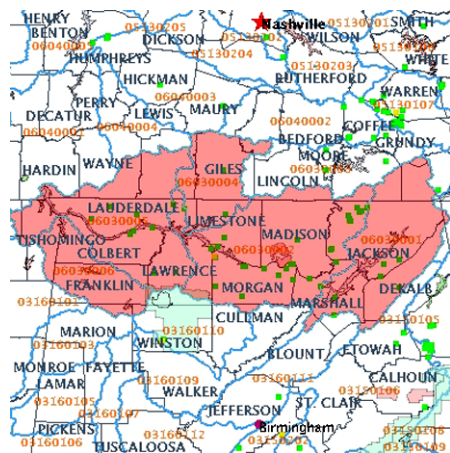
Determine degraded sites needing restoration by working with partners and landowners. Use Partners Program funding and other available funding sources to repair stream banks, fence livestock out of the streams, provide alternative water sources, and revegetate riparian areas with native trees, shrubs and grasses. Landowners will be encouraged to utilize USDA programs such as the Conservation Reserve Program, Environmental Quality Incentive Program, Conservation Security Program, and Wildlife Habitat Incentive Program to reduce sedimentation in the watershed.

Tennessee River Focus Area

In Alabama, the Tennessee River Basin encompasses approximately 6,826 square miles in 15 northern counties. It is largely confined to the Southwest Appalachians and Interior Plateau. The Tennessee River is one of the most biologically diverse river basins in North America with 163 species of fish, 90 species of freshwater mussels, and 66 species of aquatic snails known to occur in the Alabama portion of the Tennessee River.

Priority Habitat
Riparian

Five-Year Target (FY 2007-2011)
0.08 mile



Tennessee River Focus Area

Focus Species*

Seventeen imperiled mussels (e.g., mucket, SOC) and snails (e.g., slender campeloma, E) and 4 federally listed species of fish (e.g., slackwater darter, T); slabside pearl mussel (C)

Threats:

Impoundments on the Tennessee River, Elk River and in the Bear Creek watershed are responsible for the loss of most riverine habitat, fragmentation and isolation of streams and modification of the natural flow regime. Water quality degradation resulting from sedimentation and nutrient enrichment from agriculture, silviculture, and urbanization of the watershed is also a problem affecting aquatic species habitat.

Action Strategies

The Partners Program will determine degraded sites needing restoration by working with partners and landowners and utilizing all available conservation funding opportunities to repair stream banks, fence livestock out of the streams, provide alternative water sources, revegetate riparian areas with native trees, shrubs and grasses and plant native grasses in fields contributing sediment to the Tennessee River and tributaries. Landowners will be encouraged to utilize USDA programs such as Conservation Reserve Program, Environmental Quality Incentive Program, Conservation Security Program, and Wildlife Habitat Incentive Program



A severely eroding stream bank along Hurricane Creek in the Paint Rock River watershed

where appropriate to reduce sedimentation in the watershed.

Coosa River Focus Area

The Coosa River Watershed is the largest and most biologically diverse watershed in the Mobile River Basin in terms of fish, mussels and snails. The Coosa River is largely impounded with a total drainage area of 5,353 square miles in Alabama. There are six dams on the mainstem of the Coosa including Weiss, Neely Henry, Logan Martin, Lay, Mitchell, and Jordan. The watershed is approximately 70 percent forested, 19 percent agriculture and pasture, and 5 percent urban.

Priority Habitat
Riparian

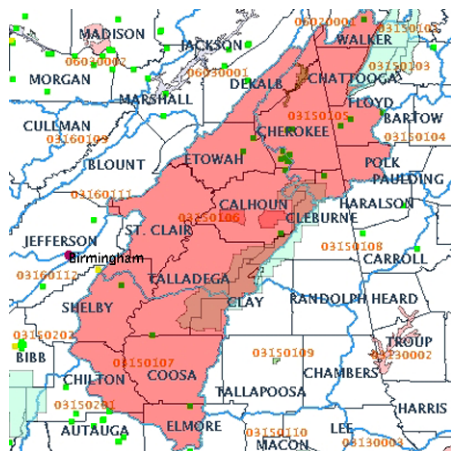
Five-Year Target (FY 2007-2011)
One mile

Focus Species*

Nine imperiled fish species (e.g., pigmy sculpin, T) and 24 imperiled mussels (e.g., southern pigtoe, E) and snails (e.g., Tulotoma, E)

Threats

The main problems affecting imperiled species and their habitat in the Coosa River are fragmentation of riverine habitat resulting from impoundments; water quality degradation (sedimentation and nutrient enrichment) resulting from gravel mining, agriculture, silviculture, and urbanization.



Coosa River Focus Area



Stream bank restoration on Choccolocco Creek in the Coosa River watershed

Action Strategies

The Partners Program is working with the Alabama Soil and Water Conservation Committee, the Clean Water Partnership and private landowners to improve water quality in the Coosa. The primary implementation strategy for the Partners Program is installation of riparian buffers and repair and stabilization of stream banks with soft armoring techniques such as root wads, log vanes and native grasses, shrubs, and trees. Partners biologists will also work with private forest landowners and county governments to reduce sedimentation resulting from forest roads and dirt roads in the watershed.

In addition the Partners Program will encourage the USDA to utilize their programs like the Environmental Quality Incentive Program and Conservation Reserve Program to reduce sedimentation resulting from cropland, pasture and forest land that may be affecting listed candidate, threatened or endangered species.

Longleaf Pine Gopher Tortoise Focus Area

This focus area includes the range of the gopher tortoise and encompasses the longleaf pine-scrub oak-wiregrass-bluestem community, the pine flatwoods community, pine savanna community, and embedded pitcher plant bog community. The gopher tortoise is a keystone species in this focus area because management of the longleaf/grass-forb community that provides suitable habitat for the gopher tortoise also provides habitat for many other listed threatened or endangered species and non-listed imperiled species.

Priority Habitat:

Upland: Longleaf pine with native ground cover of grasses and forbs

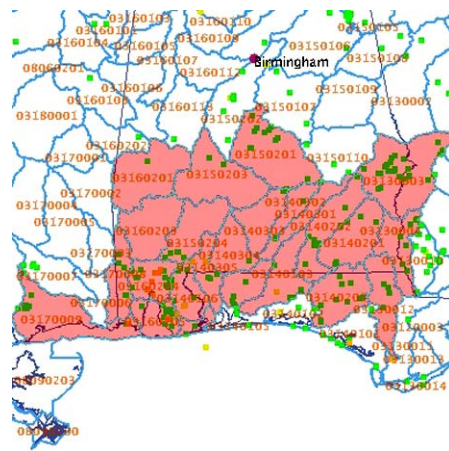
Five-Year Target (FY 2007-2011)
2,250 acres

Focus Species*

Gopher tortoise (T), eastern indigo snake (T), Bachman's sparrow (SOC), Henslow sparrow (SOC), black pine snake (C), flatwoods salamander (T), gopher frog (SOC), northern bobwhite quail (SOC), Alabama canebrake pitcher plant (E), American chaffseed (E), panhandle lily (SOC) and red-cockaded woodpecker (E)

Threats

The once vast longleaf pine ecosystem in the southeast has been reduced to a mere fraction of what once covered over 90 million acres. Remaining longleaf habitat is often degraded due to the lack of prescribed fire, fragmentation and invasive exotic species.



Longleaf Pine Gopher Tortoise Focus Area



Natural area old growth longleaf

Action Strategies

The implementation strategy for this focus area is a multi-year, multifaceted initiative involving numerous partners including The Longleaf Alliance, The Nature Conservancy, Alabama Soil and Water Conservation Committee, Natural Resources Conservation Service, Cooperative Extension Service, the Gopher Tortoise Council and various private landowners. The initiative is composed of:

- landowner and agency agreements for habitat restoration-establishment,
- demonstration projects for control of exotic vegetation,
- understory restoration in longleaf and
- outreach programs.

Habitat improvement efforts will be coordinated with other Service activities, including Habitat Conservation Plans, Safe Harbor, State Wildlife Grants, and the Landowner Incentive Program. Coordinating Service funded

programs with USDA's Wildlife Habitat Incentive Program, Conservation Reserve Program and the Environmental Quality Incentive Program will also be a component of the overall strategy. The geographic habitat spatial data being developed by U.S. Geological Survey will be useful in piecing together the fragments of the once extensive longleaf pine ecosystem.

Service efforts will be geared toward restoring a functioning longleaf ecosystem suitable for occupation by the gopher tortoise, the keystone species. Stands of longleaf pine managed for the gopher tortoise will also provide suitable habitat for the other species of imperiled wildlife that occupy this habitat type. The Longleaf Pine Gopher Tortoise focus area involves numerous federal, state and private partners working together to re-establish the longleaf pine ecosystem in the historic range of the gopher tortoise. The primary partners include the The Longleaf Alliance, Alabama Soil and Water Conservation Committee, Natural Resources Conservation Service, Alabama Wildlife and Freshwater Fisheries, The Nature Conservancy of Alabama, Alabama Forestry Commission, and numerous private landowners.

* E=federal listed endangered species; T=federal listed threatened species; C=federal candidate species; SOC=species of concern

Stakeholders Involved

The following is a list of stakeholders involved in the Partners Program in Alabama. The strategic planning process was coordinated with numerous stakeholders early in development of the Plan. A meeting with our primary stakeholders was held before the details of the strategic were developed. The primary stakeholders present at the meeting were the Natural Resources Conservation Service (the state biologist, an area conservationist and a district conservationist), biologists with the Alabama Wildlife and Freshwater Fisheries (two private lands biologists, the Landowner Incentive Program biologist, and the State Wildlife Grants Coordinator), The Nature Conservancy, and three Fish and Wildlife Service private lands biologists and the State Partners Coordinator. All of the representatives present were very familiar with delivery of habitat improvement projects on private land. Numerous stakeholders are involved in delivery and funding of private lands projects. The Service has worked with each of the stakeholders included below.

- Private landowners (approximately 70 over the last five years)
- Alabama Wildlife and Freshwater Fisheries Division Department of Conservation and Natural Resources
- State Lands Division Alabama Department of Conservation and Natural Resources
- The Nature Conservancy of Alabama
- USDA- Natural Resources Conservation Service
- USDA – Farm Services Agency
- Alabama Soil and Water Conservation Committee
- Alabama Forestry Commission
- The Longleaf Alliance
- Auburn University
- Baldwin County Soil and Water Conservation District
- Madison County Soil and Water Conservation District

- Limestone County Soil and Water Conservation District
- Birmingham Water Works Board
- Mobile Area Water and Sewer Board
- Alabama Rivers Alliance
- Kimberly Clark, Inc
- International Paper Co
- Choccolocco Creek Watershed Conservancy District
- City of Citronelle
- Daphne Middle School
- Mobile County Wildlife and Conservation Association
- Mobile Bay National Estuary Program
- Newton Middle School
- Weeks Bay Estuarine Research Reserve
- Weeks Bay Foundation
- Alabama Coastal Foundation
- Coastal Land Trust
- Cahaba River Society
- Alabama Department of Environmental Management
- U.S. Army Corps of Engineers
- Lauderdale Soil and Water Conservation District
- Tennessee Valley Authority
- Alabama Natural Heritage Program
- Alabama Water Watch
- Youth Conservation Corps
- Americorps
- Choctawhatchee Watershed Authority
- Alabama Forest Resources Center
- Volkerts and Associates, Inc.
- Alabama State Docks
- Baldwin County School District
- Mobile County Forestry Planning Committee
- Baldwin County Forestry Planning Committee
- Baldwin County Commission
- Winston County Commission
- Gulf Coast Resource Conservation and Development

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